Fall 2004

CEG 402/602: Introduction to Computer Communication

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F04

Department of Computer Science and Engineering
Wright State University

CEG402/602 Introduction to Computer Communication

SYLLABUS

Fall 2004

Time/Place	Section 1: 8:00-9:15pm, T, TH 150 Russ Engineering Center
Instructor	Dr. Bin Wang, Assistant Professor, 447 Russ Engineering Center Tel: (937) 775-5115, E-mail: *bwang@cs.wright.edu* Office hours: 1:30-2:30pm M, W or by appointment
TA	Anil Pereira, 326 Russ Engineering Center E-mail: *apereira@cs.wright.edu* Office hours: 3:00-4:00pm T, TH
Prerequisites	The topics that we will cover are self-contained so that a background in networking is not required. CS400 and proficient in C or C++; Programming experience in C or C++; Program development tools: editors, compilers, linkers, debuggers; Data structures: arrays, stacks, queues, lists, and binary trees.
Textbooks	*Required*: Computer Networking: A top-down approach featuring the Internet, 3rd Ed. Kurose & Ross, Addison-Wesley, 2005 *Required*: CEG 402/602 Lab Manual, P. Chen, 1996 *References*: Computer Networks, 4th Ed, Andrew S. Tanenbaum, Prentice Hall, 2002
Webpage **News Group**	http://www.cs.wright.edu/~bwang/teaching.htm wright.ceg.402; check for announcements, questions and answers
Course Objectives	This course provides an introduction to basic concepts of communication networks, different types of networks, protocols over different layers, and network applications through lectures, labs, homework, and reading on relevant materials. You will • Understand networking principles, protocols, and technologies. • Understand some design and performance issues involved in providing a network service. • Acquire background for supporting e-commerce, e-government, and e-education. • Gain hands-on experience with programming techniques for network protocols. • Obtain background for original research in computer networks.

Students' Responsibilities

You are expected to:

1) read assigned materials **prior to** class and come up with questions. Reading materials will be assigned in advance.
2) attend classes on a regular and timely basis. Regular class attendance is mandatory and is essential to success in the course. You are responsible for all contents, handouts, and announcements distributed/made in class.
3) complete and turn in your assignments timely. You are expected to write your own programs. **Do not** copy from or give your work to others, and **do not** make it possible for others to copy any portions of your work. Violators will receive a **zero** credit on the assignment.
4) be present for exams at the scheduled times. If there is a catastrophic event that prevents you form taking an exam, please contact the instructor as soon as possible.
5) not disturb/disrupt the class.
6) set up an appointment with the instructor and/or graduate teaching assistant or visit during office hours if you have questions regarding course contents, lectures, handouts, and other problems.

Course Evaluation

You will receive a final course grade comprised of the weighted score earned on all required course assignments and exams.

Methods:	**% of final grade**
1. Participation(show up, in class discussion, in class quizzes, etc): 5%	
2. Labs:	30%
3. Homework:	16% (4 homework)
4. Middle term exam:	15% (October 7, in class)
5. Final exam:	34% (November 16,8:00pm-10:00pm)
Total	100%

Grading scale:

402		**602**
90-100	A	93-100
80-89.9	B	83-92.9
70-79.9	C	73-82.9
60-69.9	D	63-72.9
Below 60	F	<63

Undergraduates and graduates will be graded separately.
Re-grading policy: If you have questions about the way an assignment or exam was graded, you must submit **in writing** a regrading request detailing the rationale for regrading.

Late Submission of Programming Assignments

You may discuss homework assignments with classmates but all solutions must be original and individually prepared.
You will lose 5% of the total points for an assignment for each 24-hour period (or fraction of a 24 hour period) the assignment is late. Late assignments will be accepted up to 4 days after the due date as specified in the assignment handout.

Late penalty is accrued on weekends just as during the week. Partial credits will be given to students who turn in partially completed assignments.

Special considerations will be given for students who have a medical excuse for late submission (written proof of illness is required). These considerations may extend to medical emergencies involving children or other family members. Such consideration is at the discretion of the instructor, and will be as reasonable and fair as possible. Special consideration may also be given for employment conflicts (e.g. military duty, travel) if brought to the attention of the instructor **prior to** the due date for an assignment.

Course requirements for other courses are **NOT** a valid reason for special consideration.

Missed Quizzes and Exam

Missed quizzes and exams can be made up only under extenuating circumstances such as medical emergencies and work conflicts as mentioned above. Please see the instructor as soon as possible if you know you will be unable to attend a quiz or exam. You are expected to schedule your departure for any end of quarter travel after your final exam.

Plagiarism

Students are members of a learning community committed to the search for knowledge and truth. Essential to that search is the faithful adherence by all students to the highest standards of honesty and integrity. A grade of "0" or "F" will be assigned to examinations or assignments on which cheating, plagiarism or any other form of academic dishonesty is committed or determined to have occurred. For the detail, see Wright State University Student Handbook under "Academic Dishonesty".

Lecture Outline

The following is the **tentative** lecture schedule.

Lecture	**Contents**
Lecture 1	Introduction: computer networks and the Internet
Lecture 2	Basic networking concepts
Lecture 3	Application layer: DNS
Lecture 4	Application layer: Web and HTTP
Lecture 5	Application layer: FTP, email, content distribution etc
Lecture 6	Transport layer: UDP
Lecture 7	Transport layer: TCP
Lecture 8	Transport layer: principle of reliable transfer (sliding window protocol; selective repeat)
Lecture 9	TCP reliability and flow control
Lecture 10	Network layer and routing: IP, IP addressing,
Lecture 11	Routing algorithm: link state routing
Lecture 12	Midterm
Lecture 13	Routing algorithm: distance vector routing
Lecture 14	Router: packet forwarding
Lecture 15	Link layer: Error detection and correction techniques
Lecture 16	Link layer: Media access control (multiple access) protocols
Lecture 17	LAN: LAN addresses and ARP, Ethernet,
Lecture 18	LAN: Ethernet, Hubs, Bridges, Switches

Lecture 19	LAN: PPP, Wireless Links
Lecture 20	LAN: ATM, Frame relay, Wireless network
Review session	Review for final exam